

RAW SEQUENCE LISTING DATE: 04/17/2002 PATENT APPLICATION: US/10/089,370 TIME: 11:32:11

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      5 <120> TITLE OF INVENTION: Plant PRPP amidotransferase
      7 <130> FILE REFERENCE: NAE991125
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C--> 10 <141> CURRENT FILING DATE: 2002-03-29
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188	1	T	g	a 1	5	T	3	T	D	10	O	O	Dma	Com	15	T ***	
190	Pro	ьeu	ser		Pro	ьeu	ASP	гуѕ		rne	Cys	ser	PLO		Gln	гая	
191	τ	T	G	20	O	D	T	m b	25	D == =	T	D	m	30	m 1	T 011	
193	ьeu	ьeu		ьeu	ser	Pro	ьys		ьeu	PLO	гàг	Pro		arg	Thr	nea	
194	77 - 7	ml	35	a	. .	T	3	40	т	3	3	17- 1	45	C	nk -	T	
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206	Ser	Arg	Leu		Tyr	Leu	Ala	Leu		Ala	Leu	Leu	His		Gly	Gln
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209	Glu	GLY		GLY	ITe	Val	Ala		Asn	Asp	Asp	vaı		Lys	Ser	тте
210	ml	a 1	115	01	.	17. 1	a	120	37 3	Dh.a	7	61	125	T	T 011	λan
212	Thr	_	vaı	GLY	Leu	vaı		Asp	vaı	Pne	ASI	140	ser	гуѕ	Leu	ASP
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271	C1	n 7 -	435	01	T7- 7	TT	Wo.	440	T1 ~	7 J ~	Co~	Dro	445 Bro	т1.	T10	7 l a
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310 311								Met A	Ala <i>i</i>			Val S					
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311 313 314 315 317 318 319 321 322 323 325 326 327 329	Ala 10 ttt Phe cct Pro aac Asn	tgc Cys aaa Lys gac Asp	gcc Ala tcc Ser ccc Pro gtc Val 60 gac	acc Thr cta Leu tac Tyr 45 att Ile	aac Asn tct Ser 30 aga Arg tcg Ser	aaa Lys 15 caa Gln act Thr ttt Phe	tat Tyr aag Lys ctc Leu aag Lys	Met A 1 cct Pro ctc Leu atc Ile aaa Lys 65 ccc	ctt Leu tta Leu acc Thr 50 tca Ser	tca Ser tct Ser 35 gcc Ala gct Ala	cag Gln 20 tta Leu tct Ser gac Asp	Val S ccc Pro tcc Ser tcc Ser aat Asn	ctt Leu cct Pro aaa Lys acc Thr 70	gac Asp aaa Lys aac Asn 55 ttg Leu	aaa Lys acc Thr 40 ccc Pro gac Asp	ccc Pro 25 cat His tta Leu tcc Ser	99 147 195
311 313 314 315 317 318 319 321 322 323 325 326 327 329 330	Ala 10 ttt Phe cct Pro aac Asn	tgc Cys aaa Lys gac Asp ttt	gcc Ala tcc Ser ccc Pro gtc Val 60 gac	acc Thr cta Leu tac Tyr 45 att Ile	aac Asn tct Ser 30 aga Arg tcg Ser	aaa Lys 15 caa Gln act Thr ttt Phe	tat Tyr aag Lys ctc Leu aag Lys	Met A 1 cct Pro ctc Leu atc Ile aaa Lys 65 ccc	ctt Leu tta Leu acc Thr 50 tca Ser	tca Ser tct Ser 35 gcc Ala gct Ala	cag Gln 20 tta Leu tct Ser gac Asp	Val S CCC Pro tcc Ser tcc Ser aat Asn tgc Cys	ctt Leu cct Pro aaa Lys acc Thr 70	gac Asp aaa Lys aac Asn 55 ttg Leu	aaa Lys acc Thr 40 ccc Pro gac Asp	ccc Pro 25 cat His tta Leu tcc Ser	99 147 195 243
311 313 314 315 317 318 319 321 322 323 325 326 327 329 330 331	Ala 10 ttt Phe cct Pro aac Asn tat Tyr	tgc Cys aaa Lys gac Asp ttt Phe 75	gcc Ala tcc Ser ccc Pro gtc Val 60 gac Asp	acc Thr cta Leu tac Tyr 45 att Ile gat Asp	aac Asn tct Ser 30 aga Arg tcg Ser gac Asp	aaa Lys 15 caa Gln act Thr ttt Phe gat Asp	tat Tyr aag Lys ctc Leu aag Lys aaa Lys	Met A 1 cct Pro ctc Leu atc Ile aaa Lys 65 ccc Pro	ctt Leu tta Leu acc Thr 50 tca Ser cgt Arg	tca Ser tct Ser 35 gcc Ala gct Ala gaa Glu	cag Gln 20 tta Leu tct Ser gac Asp gag Glu	Val S CCC Pro tcc Ser tcc Ser aat Asn tgc Cys 85	ctt Leu cct Pro aaa Lys acc Thr 70 ggc Gly	gac Asp aaa Lys aac Asn 55 ttg Leu gtt Val	aaa Lys acc Thr 40 ccc Pro gac Asp gtg Val	ccc Pro 25 cat His tta Leu tcc Ser	99 147 195 243 291
311 313 314 315 317 318 319 321 322 323 325 326 327 329 330 331 333	Ala 10 ttt Phe cct Pro aac Asn tat Tyr	tgc Cys aaa Lys gac Asp ttt Phe 75	gcc Ala tcc Ser ccc Pro gtc Val 60 gac Asp	acc Thr cta Leu tac Tyr 45 att Ile gat Asp	aac Asn tct Ser 30 aga Arg tcg Ser gac Asp	aaa Lys 15 caa Gln act Thr ttt Phe gat Asp	tat Tyr aag Lys ctc Leu aag Lys aaa Lys 80 gct	Met A 1 cct Pro ctc Leu atc Ile aaa Lys 65 ccc Pro tca	ctt Leu tta Leu acc Thr 50 tca Ser cgt Arg	tca Ser tct Ser 35 gcc Ala gct Ala gaa Glu	cag Gln 20 tta Leu tct Ser gac Asp gag Glu	Val S CCC Pro tcc Ser tcc Ser aat Asn tgc Cys 85 tat	ctt Leu cct Pro aaa Lys acc Thr 70 ggc Gly	gac Asp aaa Lys aac Asn 55 ttg Leu gtt Val	aaa Lys acc Thr 40 ccc Pro gac Asp gtg Val	ccc Pro 25 cat His tta Leu tcc Ser ggc Gly	99 147 195 243
311 313 314 315 317 318 319 321 322 323 325 326 327 329 330 331 333 334	Ala 10 ttt Phe cct Pro aac Asn tat Tyr atc Ile	tgc Cys aaa Lys gac Asp ttt Phe 75	gcc Ala tcc Ser ccc Pro gtc Val 60 gac Asp	acc Thr cta Leu tac Tyr 45 att Ile gat Asp	aac Asn tct Ser 30 aga Arg tcg Ser gac Asp	aaa Lys 15 caa Gln act Thr ttt Phe gat Asp gaa Glu	tat Tyr aag Lys ctc Leu aag Lys aaa Lys 80 gct	Met A 1 cct Pro ctc Leu atc Ile aaa Lys 65 ccc Pro tca	ctt Leu tta Leu acc Thr 50 tca Ser cgt Arg	tca Ser tct Ser 35 gcc Ala gct Ala gaa Glu	cag Gln 20 tta Leu tct Ser gac Asp gag Glu tgc Cys	Val S CCC Pro tcc Ser tcc Ser aat Asn tgc Cys 85 tat	ctt Leu cct Pro aaa Lys acc Thr 70 ggc Gly	gac Asp aaa Lys aac Asn 55 ttg Leu gtt Val	aaa Lys acc Thr 40 ccc Pro gac Asp gtg Val	ccc Pro 25 cat His tta Leu tcc Ser ggc Gly cac	99 147 195 243 291
311 313 314 315 317 318 319 321 322 323 325 326 327 329 330 331 333 334 335	Ala 10 ttt Phe cct Pro aac Asn tat Tyr atc Ile 90	tgc Cys aaa Lys gac Asp ttt Phe 75 tat Tyr	gcc Ala tcc Ser ccc Pro gtc Val 60 gac Asp	acc Thr cta Leu tac Tyr 45 att Ile gat Asp	aac Asn tct Ser 30 aga Arg tcg Ser gac Asp tca Ser	aaa Lys 15 caa Gln act Thr ttt Phe gat Asp gaa Glu 95	tat Tyr aag Lys ctc Leu aag Lys aaa Lys gct Ala	Met A 1 cct Pro ctc Leu atc Ile aaa Lys 65 ccc Pro tca Ser	ctt Leu tta Leu acc Thr 50 tca Ser cgt Arg	tca Ser tct Ser 35 gcc Ala gct Ala gaa Glu ctt Leu	cag Gln 20 tta Leu tct Ser gac Asp gag Glu tgc Cys	Val S ccc Pro tcc Ser tcc Ser aat Asn tgc Cys 85 tat Tyr	ctt Leu cct Pro aaa Lys acc Thr 70 ggc Gly tta Leu	gac Asp aaa Lys aac Asn 55 ttg Leu gtt Val gca Ala	aaa Lys acc Thr 40 ccc Pro gac Asp yal ctt Leu	ccc Pro 25 cat His tta Leu tcc Ser ggc Gly cac His	99 147 195 243 291 339
311 313 314 315 317 318 319 321 322 323 325 326 327 329 330 331 333 334 335 337	Ala 10 ttt Phe cct Pro aac Asn tat Tyr atc Ile 90 gcg	tgc Cys aaa Lys gac Asp ttt Phe 75 tat Tyr	gcc Ala tcc Ser ccc Pro gtc Val 60 gac Asp	acc Thr cta Leu tac Tyr 45 att Ile gat Asp gac Asp	aac Asn tct Ser 30 aga Arg tcg Ser gac Asp tca Ser	aaa Lys 15 caa Gln act Thr ttt Phe gat Asp gaa Glu 95 ggc	tat Tyr aag Lys ctc Leu aag Lys aaa Lys gct Ala	Met A 1 cct Pro ctc Leu atc Ile aaa Lys 65 ccc Pro tca Ser gaa	ctt Leu tta Leu acc Thr 50 tca Ser cgt Arg cgc Arg	tca Ser tct Ser 35 gcc Ala gct Ala gaa Glu ctt Leu	cag Gln 20 tta Leu tct Ser gac Asp gag Glu tgc Cys 100 ggc	Val S ccc Pro tcc Ser tcc Ser aat Asn tgc Cys tat Tyr att	ctt Leu cct Pro aaa Lys acc Thr 70 ggc Gly tta Leu gtc	gac Asp aaa Lys aac Asn 55 ttg Leu gtt Val gca Ala	aaa Lys acc Thr 40 ccc Pro gac Asp gtg Val ctt Leu	ccc Pro 25 cat His tta Leu tcc Ser ggc Gly cac His 105 aac	99 147 195 243 291
311 313 314 315 317 318 319 321 322 323 325 326 327 329 330 331 333 334 335 337 338	Ala 10 ttt Phe cct Pro aac Asn tat Tyr atc Ile 90 gcg	tgc Cys aaa Lys gac Asp ttt Phe 75 tat Tyr	gcc Ala tcc Ser ccc Pro gtc Val 60 gac Asp	acc Thr cta Leu tac Tyr 45 att Ile gat Asp gac Asp	aac Asn tct Ser 30 aga Arg tcg Ser gac Asp tca Ser cgt	aaa Lys 15 caa Gln act Thr ttt Phe gat Asp gaa Glu 95 ggc	tat Tyr aag Lys ctc Leu aag Lys aaa Lys gct Ala	Met A 1 cct Pro ctc Leu atc Ile aaa Lys 65 ccc Pro tca Ser gaa	ctt Leu tta Leu acc Thr 50 tca Ser cgt Arg	tca Ser tct Ser 35 gcc Ala gct Ala ctt Leu gcc Ala	cag Gln 20 tta Leu tct Ser gac Asp gag Glu tgc Cys 100 ggc	Val S ccc Pro tcc Ser tcc Ser aat Asn tgc Cys 85 tat Tyr att	ctt Leu cct Pro aaa Lys acc Thr 70 ggc Gly tta Leu gtc	gac Asp aaa Lys aac Asn 55 ttg Leu gtt Val gca Ala	aaa Lys acc Thr 40 ccc Pro gac Asp gtg Val ctt Leu gtt Val	ccc Pro 25 cat His tta Leu tcc Ser ggc Gly cac His 105 aac	99 147 195 243 291 339
311 313 314 315 317 318 319 321 322 323 325 326 327 329 330 331 333 334 335 337 338 339	Ala 10 ttt Phe cct Pro aac Asn tat Tyr atc Ile 90 gcg Ala	tgc Cys aaa Lys gac Asp ttt Phe 75 tat Tyr ctt Leu	gcc Ala tcc Ser ccc Pro gtc Val 60 gac Asp ggc Gly caa Gln	acc Thr cta Leu tac Tyr 45 att Ile gat Asp gac Asp	aac Asn tct Ser 30 aga Arg tcg Ser gac Asp tca Ser cgt Arg	aaa Lys 15 caa Gln act Thr ttt Phe gat Asp gaa Glu 95 ggc Gly	tat Tyr aag Lys ctc Leu aag Lys aaa Lys 80 gct Ala caa Gln	Met A 1 cct Pro ctc Leu atc Ile aaa Lys ccc Pro tca Ser gaa Glu	ctt Leu tta Leu acc Thr 50 tca Ser cgt Arg cgc Arg	tca Ser tct Ser 35 gcc Ala gct Ala gaa Glu ctt Leu gcc Ala 115	cag Gln 20 tta Leu tct Ser gac Asp gag Glu tgc Cys 100 ggc Gly	Val S ccc Pro tcc Ser tcc Ser aat Asn tgc Cys 85 tat Tyr att Ile	ctt Leu cct Pro aaa Lys acc Thr 70 ggc Gly tta Leu gtc Val	gac Asp aaa Lys aac Asn 55 ttg Leu gtt Val gca Ala	aaa Lys acc Thr 40 ccc Pro gac Asp gtg Val ctt Leu gtt Val 120	ccc Pro 25 cat His tta Leu tcc Ser ggc Gly cac His 105 aac Asn	99 147 195 243 291 339 387
311 313 314 315 317 318 319 321 322 323 325 326 327 329 330 331 333 334 335 337 338	Ala 10 ttt Phe cct Pro aac Asn tat Tyr atc Ile 90 gcg Ala gac	tgc Cys aaa Lys gac Asp ttt Phe 75 tat Tyr ctt Leu	gcc Ala tcc Ser ccc Pro gtc Val 60 gac Asp ggc Gly caa Gln	acc Thr cta Leu tac Tyr 45 att Ile gat Asp gac Asp	aac Asn tct Ser 30 aga Arg tcg Ser gac Asp tca Ser cgt Arg 110 aag	aaa Lys 15 caa Gln act Thr ttt Phe gat Asp gaa Glu 95 ggc Gly	tat Tyr aag Lys ctc Leu aag Lys aaa Lys 80 gct Ala caa Gln	Met A 1 cct Pro ctc Leu atc Ile aaa Lys 65 ccc Pro tca Ser gaa Glu aca	ctt Leu tta Leu acc Thr 50 tca Ser cgt Arg cgc Arg	tca Ser tct Ser 35 gcc Ala gct Ala gaa Glu ctt Leu gcc Ala 115 gtt	cag Gln 20 tta Leu tct Ser gac Asp gag Glu tgc Cys 100 ggc Gly	Val S ccc Pro tcc Ser tcc Ser aat Asn tgc Cys 85 tat Tyr att Ile	ctt Leu cct Pro aaa Lys acc Thr 70 ggc Gly tta Leu gtc Val	gac Asp aaa Lys aac Asn 55 ttg Leu gtt Val gca Ala gcc Ala	aaa Lys acc Thr 40 ccc Pro gac Asp gtg Val ctt Leu gtt Val 120 gac	ccc Pro 25 cat His tta Leu tcc Ser ggc Gly cac His 105 aac Asn	99 147 195 243 291 339

VERIFICATION SUMMARY

DATE: 04/17/2002 TIME: 11:32:12

PATENT APPLICATION: US/10/089,370

Input Set : A:\3557-13 seq list.txt Output Set: N:\CRF3\04172002\J089370.raw

 $L:9\ M:270\ C:$ Current Application Number differs, Replaced Application Number L:10 M:271 C: Current Filing Date differs, Replaced Current Filing Date